



# Connecting to a hotspot

How to guide



# Un-wiring the world

It used to be that in order to be productive, we had to be in the office, sitting at a desk. But today, the “office” can be almost anywhere. You can work from coffee shops, conference centers, hotels, airports—all you need is a laptop and a hotspot. **Hotspots** are areas of wireless connectivity, and with more than 27,000 in the United States and 65,000 worldwide<sup>1</sup>, almost any place can become your mobile office. But connecting to a hotspot takes the right equipment, and a little bit of know-how. This guide will introduce you to the basics of wireless networking and walk you through the process of connecting to a hotspot.

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— basics

A man with short grey hair, wearing a green t-shirt, is sitting at a wooden table in a cafe. He is laughing heartily, looking up and to the right. His hands are on the keyboard of a silver laptop. The background is a blurred cafe interior with other tables, chairs, and red baskets.

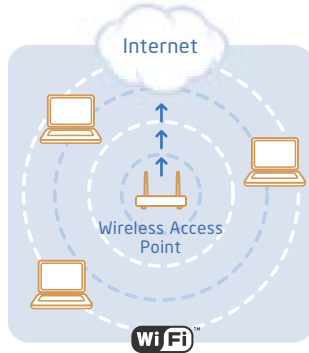
# 1

Hotspot basics

# A crash course on wireless networking

On the most basic level, wireless networking, or a Wireless Local Area Network (WLAN), is a series of devices—access points or routers and **Wi-Fi** radios—that connect to one another and transmit data via radio signals. Access points and routers are the devices that connect the network to the Internet. Wi-Fi radios are a part of the users' equipment—either built into their laptops or added on as a peripheral device—that communicates with the access points and routers.

The term “Wi-Fi” is short for “wireless fidelity” and is a generic label that refers to wireless networks.



A hotspot, then, is simply an access point or series of access points within a wireless network. If you have a wireless router at home, the area of coverage it creates is technically a hotspot. But most often when people refer to hotspots, they're talking about access points in public places.



## Where are the hotspots?

Hotspots are cropping up everywhere. You'll find them in coffee shops, airports, hotels, conference centers, campuses—almost any place that you find people doing business. There are even cities that have created wireless neighborhoods, making several city blocks a hotspot.

That said, finding a hotspot isn't always easy. If you're planning to travel and want to stay connected or you need to work remotely, it's a good idea to know where hotspots will be available to you ahead of time. Intel has a free, comprehensive hotspot finder that's an excellent tool for locating Intel® Centrino® mobile technology-verified hotspots all over the world. Use it to find not only where hotspots are, but also who the provider is and whether or not there is a fee associated with using the hotspot. Look for the finder at <http://intel.jiwire.com/>.

## What does it cost to use a hotspot?

Hotspots come in two varieties: free and pay. Free hotspots are exactly that. They can be used free of charge, and connecting to one doesn't usually require having a password or other user information, although you may be required to agree to specific terms of use in order to log on.

Pay hotspots require either that you pay on the spot ("as you go" for time used, or up-front for a 24-hour window), or that you pay a subscription to a service provider (similar to a mobile phone plan). If you want to use a pay hotspot but don't have a subscription, you can usually use your credit card to pay immediately with very little setup time. But it's important to note that if you do sign up with a hotspot service provider, your subscription covers use of only that service provider's hotspots. So be sure you choose a provider with hotspots that are convenient for you.

## Hotspot Pricing

Payment Type	Cost	Notes
Pay as you go	\$10-\$15 for 2 hours of use	Most services charge a login fee that includes the first 60 or 120 minutes. Each subsequent minute incurs a new charge—much like long-distance phone service.
Day rate	Approximately \$10 for 24 hours	Some service providers offer a day rate that allows for unlimited use for 24 hours from the first login.
Subscription	\$30-\$40 per month	Many service providers offer a lower monthly rate for subscribers who commit to an annual contract. Most subscription plans offer unlimited usage.

## Smart tips about hotspots

Connecting to a hotspot can be very simple once you get the hang of it. But there are certain tricks of the trade that can make your hotspot experience better. Here are a few smart tips for finding and using hotspots:

### 1. Know before you go

Use the Intel Hotspot Finder before you leave the office, so you'll know where the hotspots are and whether or not they're free. This will allow you to maximize your resources. Intel Hotspot Finder: <http://intel.jiwire.com/>.

### 2. Be aware of your surroundings

It's easy to connect to a hotspot, start working, and forget that you're in a public place. Be conscious of the people around you—especially if you're dealing with



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confidential company information. You might also consider investing in an anti-glare privacy screen cover.

### **3. Make the most of your battery life**

Working remotely often means that you need to make your battery life last. Whenever possible be proactive and get connected near a power outlet.

### **4. Avoid the noise**

If you plan to use VoIP (also known as Internet telephony), select a quiet spot away from loud speakers or public TV sets.



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# 2

Connecting to a hotspot



## Equipment and supplies

When it comes to equipment, all you need to connect to a hotspot is a notebook computer that's Wi-Fi-enabled. That means that either your notebook has a built-in Wi-Fi radio or that you've added a Wi-Fi radio to your machine. Most new machines have Wi-Fi capabilities built in, but if your laptop is more than a couple of years old, you may need to purchase an add-on wireless adapter.



You can choose from these two types of adapters:

**PCMCIA cards**—PCMCIA cards plug into the PC card slot on your laptop. Many come with an integrated antenna, and all are for use with PCs (not Macs). Costs: \$25–\$125

**USB wireless adapters**—These adapters plug into any USB port and are compatible with both PCs and Macs. Costs: \$20–\$100

## 802.11 a/b/g

### A note about wireless standards

These numbers and letters are the names for the three different wireless standards. They refer to radio frequency and **bandwidth**—the speed at which information is transferred between access points and users. 802.11b and 802.11g are supported by most hotspot networks, but 802.11a is not. So when buying Wi-Fi adapters, be sure that they are either 802.11b- or 802.11g-compatible.

## Better wireless with Intel® Centrino® Duo mobile technology

To be more effective when working wirelessly, consider investing in notebooks equipped with Intel® Centrino® Duo mobile technology. Intel's new dual-core processor is designed to empower a mobile workforce with greater connectivity options, enable improved battery life, and provide better wireless performance overall<sup>2</sup>.

At the heart of Intel Centrino Duo mobile technology is the Intel® Core™ Duo processor—a **CPU**, or central processing unit, with two

complete execution cores. These two cores share the same housing, but can operate independently of one another. That allows your computer to deliver better performance while balancing power requirements.



Better performance means that you'll experience improved connectivity. Many Intel mobile dual-core processor-based laptops are enabled with Flexible Roaming, which allows you to move from access point to access point more seamlessly. And when equipped with a next-generation noise interference filter<sup>2</sup>, Intel mobile dual-core processor-based laptops allow for higher throughput in areas with wireless signal overlap. You'll also find that Intel mobile dual-core processor-based laptops offer features that enhance security<sup>3</sup>. When enabled with our latest chipset, Intel® PROSet/Wireless v10<sup>4</sup>, Intel mobile

dual-core processor-based laptops give users advanced administrative tools and a simpler user interface while supporting the latest industry security standards.

## Setup—configuring your laptop

If you have wireless capabilities built in—for Mac users that means an AirPort\* card and for many PC users it's Intel® Centrino® mobile technology—you won't need to configure your laptop: it will detect the wireless hotspot automatically. But if you're using a Wi-Fi adapter, your next step is configuration.

Almost any Wi-Fi adapter you buy will come with a software utility that you'll need to use to configure your machine. There may be

slight differences from model to model and manufacturer to manufacturer, but the basic steps will be as follows:

### **1. Install the driver software**

This will come with your device and should also be accompanied by instructions.

### **2. Insert the device**

Insert your PCMCIA card or USB adapter. This will likely prompt a utility icon to appear in your system tray at the bottom right of your screen (or on your desktop if you're a Mac user). Double-click it to launch the utility.

### 3. Find available networks

Do this by selecting Site Survey or Search (or some other comparable choice) from the menu choices. If you're in range of a hotspot, this will recognize and list the available networks. Select the network you want to join and click Connect.

In most cases, that's all it takes. You'll have configured your machine, and you'll be connected wirelessly for the first time.

## Getting connected

Once you've established that your machine has built-in Wi-Fi capabilities, or you've configured your laptop to work with your Wi-Fi adapter, connecting to a hotspot is a snap! Here are the basic steps:

### 1. Find a network (see above)

If your wireless hardware is turned on (or plugged in, if you're using an adapter), your laptop should automatically recognize any wireless networks in range. You may have to click on your wireless icon to view available

networks. PC users will find the icon in their system tray. Mac users will find the wireless radio icon at the top right of the screen.

## **2. Connect**

If you're at a free hotspot, simply select the network you want to join from the list displayed when you click your wireless icon. Then click Connect. That should do the trick. Try to launch your Internet browser—you should be connected to the Internet. If you're at a pay hotspot, select the network you want to join and click Connect.

## **3. Sign in or sign up**

Pay hotspots will require you to either enter your login information—if you're an existing customer—or enter your credit card information on the spot for pay-as-you-go arrangements. After you click Connect, your default Internet browser will launch and take you to the service provider's login page. Most providers have very simple, step-by-step instructions for getting you signed up and then connected. Another way to access the service provider's login page is to simply launch your Internet browser. If there's a pay network in range, you'll be taken directly to the login page.





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## Hotspots and security



## Security risks

Because wireless networks rely on radio signals to transmit data, they are not as secure as their wired counterparts. Wireless networks are susceptible to viruses and breaches like eavesdropping and need to be protected in order to be secure.

There are many security measures that businesses employ to safeguard their wireless networks, protect their data, and keep unauthorized users out. Hotspots, on the other hand, are often free of standard security practices in an effort to make it easy for anyone to connect. You will find that some pay hotspots administered by service providers offer some level of security, but when using a hotspot, it's always a good idea to be proactive and employ security measures of your own.

## Five basic security steps

Keep your wireless connection more secure and your data safer by employing these five basic security measures whenever you use a hotspot:

### 1. Use virus protection software

You may already be using virus protection software, but if you're not, it's the first thing you should do before using a hotspot.

### 2. Install a firewall

A firewall acts as a barrier between your machine and the Internet, protecting you from unauthorized

or dangerous data. You can install firewall software on your notebook, or, if you're using Microsoft Windows XP\*, simply activate your firewall settings in your control panel under Network Connections.

### 3. Password protect your files and computer

You can password-protect files one by one. It may sound time-consuming, but it's a good practice to employ for sensitive material you're accessing from a hotspot. You should also consider password-protecting your laptop itself.

#### 4. Turn off file sharing

File sharing, when it's turned on, leaves you susceptible to hackers. Protect yourself by turning it off when you're accessing a public hotspot.

#### 5. Use trusted web sites

If you're going to enter your personal information or send web mail, it's always a good idea to use sites that are secure. Look for sites that have security endorsements and that use **SSL**, Secure Sockets Layer. The small gold lock on the Internet browser status bar is the symbol of a secure site.

## Using a Virtual Private Network

It may be that your company has provided you with access to a Virtual Private Network (VPN). A **VPN** is software that allows a user on an insecure network, like the Internet, to safely access information on a secure wireless network, like a company's intranet. A VPN works by authenticating both the user and the company network and by encrypting data as it passes from user to company network and back. In essence, it creates a virtual tunnel where information passes between a user and private wireless network without the threat of security breaches.

Using a VPN requires that you connect to the hotspot and then launch your VPN client. If your company has a VPN, you'll need IT assistance to help you get set up with the client and for all login and password information.



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## Key terms

**Bandwidth**—The speed at which information is transferred between access points and users.

**Chipset**—A group of microchips that execute various functions (like memory) to support the CPU.

**CPU (central processing unit)**—Often called the brains of the computer, this is where your computer does most of its work.

**Firewall**—Hardware or software that acts as protection from unauthorized users or data.

**Hotspot**—An area of wireless connectivity.

**SSL**—Secure Sockets Layer, a protocol developed by Netscape for transmitting private documents via the Internet.

**Throughput**—The amount of data transferred in a set amount of time.

**VPN**—Virtual Private Network, software that allows a user on an insecure network to safely access information on a secure wireless network.

**Wi-Fi**—Short for “wireless fidelity,” a generic label that refers to wireless networks or networking.



# Quick tips





- 1 Page 3: source: JiWire ([www.mobilepipeline.com/news/164901415](http://www.mobilepipeline.com/news/164901415)).
- 2 Throughput will vary depending on specific hardware and software configurations, usage, and environment.
- 3 Some features and security solutions may not be supported by your PC's operating system and may require additional software and/or certain hardware as well as wireless LAN infrastructure support. Check with your PC manufacturer for details.
- 4 Only available on selected systems. Some features may require specific hardware configurations. Check with your PC manufacturer for details. See [www.intel.com/products/centrino/more\\_info](http://www.intel.com/products/centrino/more_info) for more information.
- 5 System performance, battery life, high-definition quality and functionality, and wireless performance and functionality will vary depending on your specific operating system, hardware, and software configurations. References to enhanced performance as measured by SYSMark\* 2004, PCMark\* 2005 and 3DMark\* 2005 refer to comparisons with previous generation Intel® Centrino® mobile technology platforms. References to improved battery life as measured by MobileMark\* 2005, if applicable, refer to previous generation Intel Centrino

mobile technology platforms. Wireless connectivity and some features may require the purchase of additional software, services, or external hardware. Availability of public wireless LAN access points is limited; wireless functionality may vary by country, and some hotspots may not support Linux-based Intel Centrino mobile technology systems. See [www.intel.com/products/centrino/more\\_info](http://www.intel.com/products/centrino/more_info) for more information.

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